

## Advanced Cathode Electrolyzer (ACE), Phase II

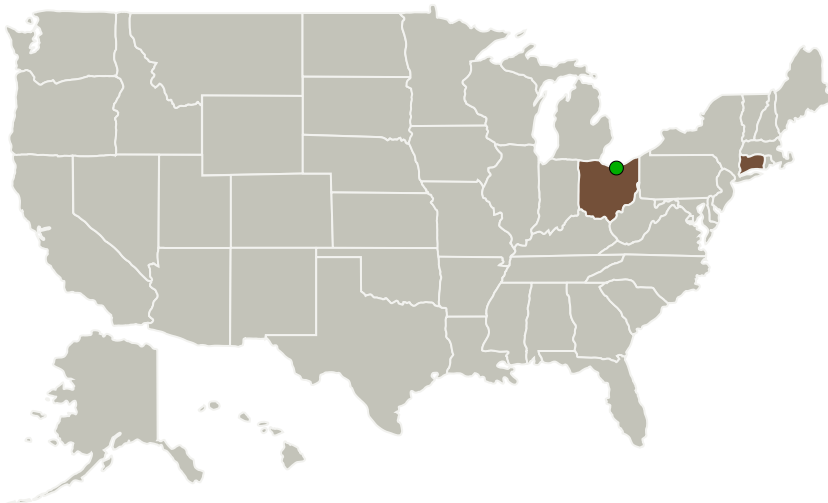
Completed Technology Project (2010 - 2012)



## Project Introduction

The proposed innovation is a static, cathode-fed, 2000 psi, balanced-pressure Advanced Cathode Electrolyzer (ACE) based on PEM electrolysis technology. It electrolyzes water vapor supplied to the hydrogen-evolving electrode and eliminates the need to circulate hydrogen and water on the cathode side of the cell. Innovations include the application of Infinity proprietary cell sealing technology to electrolysis to minimize high-pressure seals and the use of innovative passive current-control techniques to eliminate potential hydrogen gas in feedwater chambers. ACE produces hydrogen and oxygen that is free of liquid water droplets without using dynamic product gas/liquid water phase separation and/or other motorized equipment.

## Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
Infinity Fuel Cell and Hydrogen, Inc.	Lead Organization	Industry	Windsor, Connecticut
● Glenn Research Center(GRC)	Supporting Organization	NASA Center	Cleveland, Ohio



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## Table of Contents

Project Introduction	1
Primary U.S. Work Locations and Key Partners	1
Project Transitions	2
Organizational Responsibility	2
Project Management	2
Technology Maturity (TRL)	2
Technology Areas	3
Target Destinations	3

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## Primary U.S. Work Locations

Connecticut

Ohio

## Project Transitions

 **January 2010:** Project Start

 **June 2012:** Closed out

### Closeout Documentation:

- Final Summary Chart(<https://techport.nasa.gov/file/138779>)

## Organizational Responsibility

### Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

### Lead Organization:

Infinity Fuel Cell and Hydrogen, Inc.

### Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

## Project Management

### Program Director:

Jason L Kessler

### Program Manager:

Carlos Torrez

### Principal Investigator:

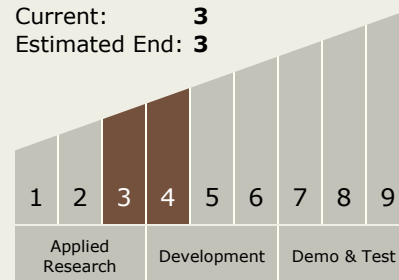
William Smith

## Technology Maturity (TRL)

Start: **4**

Current: **3**

Estimated End: **3**



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### Technology Areas

#### Primary:

- TX03 Aerospace Power and Energy Storage
  - └ TX03.2 Energy Storage
    - └ TX03.2.2 Electrochemical: Fuel Cells

### Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System